



**Decision Memo**  
**Deer Wash Wireless Communications Facility**  
**USDA Forest Service**  
**Kaibab National Forest, Tusayan Ranger District**  
**Coconino County**  
**January 23, 2020**

The Tusayan Ranger District of the Kaibab National Forest (KNF) is considering the Deer Wash Communications Facility (Deer Wash Facility), proposed by DW Tower (DWT), to improve wireless personal communications services in the Grand Canyon Area (GCA) and Tusayan Ranger District of the KNF.

The proposed Deer Wash Facility will enhance wireless telephone communications and broadband internet service for KNF operations, Grand Canyon National Park (GCNP) operations, travelers on State Route (SR) 64, KNF and GCNP visitors, and public safety government agencies.

The proposed Deer Wash Facility will improve services principally along SR 64 in the eastern area of the Tusayan Ranger District and portions of the eastern end of GCNP, near Desert View, where such services are currently not reliable. Areas on SR 64 north and east of the existing Grandview tower do not currently receive adequate or reliable wireless service. A new colocation tower facility is proposed for use by the licensed wireless carriers to serve this area. The proposed facility along with existing tower sites on the SR 64 corridor will provide seamless wireless service on this part of the SR 64 corridor. Several Federal Communication Commission licensed wireless carriers, including Verizon, have made development of a new facility in this area a 2019 priority.

**Purpose and Need**

The public and government agencies have come to expect reliable wireless telephone and internet service while traveling major transportation corridors and visiting major recreation destinations such as GCNP for general use and emergencies. The GCNP is a world-renowned tourist destination. New wireless technologies are now in demand that not only provide telephone service but internet service as well, increasing the need for additional wireless communications facilities. The SR 64 corridor from Grandview Wireless Communication Site to the KNF boundary currently is not receiving adequate or reliable wireless service from any of the wireless providers.

GCNP, the Town of Tusayan, KNF, and Coconino County in conjunction with wireless industry representatives, have cooperatively undertaken a process to address wireless communications needs for the GCA. This project is a product of that planning effort.

The purpose of this proposed action is to design and implement wireless communications facilities consistent with developing a system that will improve governmental and personal wireless communication services on the SR 64 corridor where such services are currently not available and/or reliable. In response to this need to improve wireless service, DWT proposes to construct a new tower and associated facilities on the Tusayan Ranger District for colocation use

by the licensed wireless carriers to improve and enhance wireless telephone and broadband internet services.

Typically, in order to provide seamless wireless coverage for all of the licensed wireless providers, a tower is needed approximately every seven miles unless extremely tall towers or mountain tops are used. Each provider has different technical needs regarding distance between towers. The distance between towers is based on propagation characteristics of their radio frequencies; therefore, in order to develop a collocation corridor plan that minimizes the proliferation of towers and meets the needs of all of the licensed carriers, all carrier propagation needs must be addressed. For instance, Verizon and AT&T have very different needs regarding distance between towers because of differences in how far their signals will travel.

### **Proposed Action – Tower and Equipment Buildings**

The proposed Deer Wash Facility will be located on the east side of SR 64 near Deer Wash, approximately 5 miles northwest of the KNF boundary, in Section 30, T29N, R5E, Gila and Salt River Base Line Meridian, Coconino County, Arizona (Figure 1). Tenants will primarily be wireless communications carriers (cellular and personal communications service) using radio frequencies authorized by the FCC. The major components of the proposed facility are as follows:

- A new free-standing lattice tower up to 65 feet above ground level (AGL) (Figure 2). Lighting on this tower is not anticipated under current Federal Aviation Administration (FAA) guidelines.
- Equipment building designed to house tenants within 150 feet by 100 feet lease area as shown on the site plan concept drawing (Figure 3). Construction on the site will require the removal of a few pinyon and juniper trees under 20 inches in diameter or less. Trees will be avoided where possible. Slash from tree and brush clearing will be piled or lopped and scattered as directed by the FS. Any pieces of wood that are large enough will be cut into firewood length pieces and stacked near the entrance road and be available for free use to the public, with a permit.
- The new collocation tower will provide wireless antennae space for up to four wireless carriers and microwave dishes for backhaul connectivity to the existing Grandview Communications Site.
- Equipment shelter to accommodate four wireless carriers and the DWT microwave system equipment, with the ability to accommodate local government, Arizona Department of Transportation (ADOT), and KNF communications needs.
- Equipment buildings and towers will house all tenants and will be owned and managed by the communication site leaseholder (DWT).
- DWT will provide a complete hybrid solar power system to accommodate all electrical requirements for all tenants including Verizon, T-Mobile, AT&T, and other users to meet their systems power requirements (see example, Figure 4). The solar power system will include all necessary solar panels, batteries and generator. This system will be “over built” to ensure that each carrier can add dishes and radios to accommodate a 5 year plan of growth. The solar power system will be designed, constructed, maintained, and owned by DWT.



- Approximately 350 feet of new road that will be built off an existing two track that spurs off Forest Road (FR) 64A will be used for construction and operational access to the proposed facility.
- A common microwave system will be required in order to reduce the number of microwave dishes installed on the tower and efficiently manage bandwidth. By using a common system, only one dish will be needed. A common dish will reduce the number of dishes by at least three and provides an opportunity for a less robust tower, which will reduce visibility of the tower.
- The tower and equipment shelters will be painted a Forest Service (FS) standard flat, dark brown color or a color directed by the FS to best blend with the forest background.
- Tenants will primarily be wireless communications carriers (cellular, PCS, EMRS) operating using radio frequencies authorized by the FCC.
- All galvanized shiny surfaces including the tower, ice bridges, antennae support structures, and chain link fencing will be treated with a product called Natina Steel to mitigate shiny reflective surfaces on the tower and chain link fence. Natina Steel (a.k.a. galvanized metal stain) is used to create a rustic brown finish on galvanized surfaces that will not fade, crack, or peel over time from sun exposure. Typical pigment-based colorants (i.e., paint and/or powder coating) fade, crack, and start to peel within only a few years. Natina Steel reacts with the zinc in galvanized metal and quickly (over 1 to 3 weeks depending on sunlight and heat intensity) creates a natural rustic brown patina to better blend galvanized surfaces/structures into surrounding terrains.
- The proposed tower is limited to 65 feet AGL. This reduces the amount of tower above the tree canopy and thereby limits the locations where the tower can be seen in the immediate area of the tower, eliminates all or most long distance views of the tower and eliminates the need for lighting required by the FAA.
- No temporary use areas are anticipated. All construction activities will be contained within the lease area.
- This will be a low power communications site (<1000 watts Effective Radiating Power (ERP)). The location does not have the physical, social, or geographic characteristics for high power broadcast or other uses which will not be compatible with wireless technology.
- All radio facilities shall be constructed and maintained in accordance with the Motorola R56 standards and/or other applicable recognized industry standards.

### **Decision**

In response to the purpose and need for action, I have decided to approve the commercial low power communication site at the location called Deer Wash Wireless Communications Site and also issuance of a communication site lease to DWT that will authorize construction, operation and maintenance of a wireless communications facility at the proposed Deer Wash Wireless Communications Facility, including utilities and road access. Authorization of the special-use permit will be for the maximum period of 20 years.

## **Description of Decision**

This approval includes construction of a 65 foot, four-leg, free-standing lattice tower, ancillary on site facilities like ice bridges, power and communication lines and radio equipment buildings to house site users on a fenced area of approximately 0.34 acres. The fence will be eight foot tall, stained/painted chain link fence. Electrical power will be supplied by a hybrid solar system constructed by DWT that will accommodate all electrical requirements for all tenants, including Verizon, T-Mobile, AT&T, and other users to meet their power requirements. The solar system will include all necessary solar panels; batteries and generators. Two 1,000-gallon propane tanks are authorized to fuel the generators.

This decision also approves a common shared microwave dish for wireless users. In order to protect scenic values in this area but also reduce the need for additional sites or facilities in this area, additional microwave dishes will only be considered when a strong case has been made that shared dishes are not possible due to overriding safety or legal requirements.

In addition, this decision authorizes ground-disturbing construction activities and vegetation removal that is contained within the described fenced area.

Access to the site is via FR 64A and an approximately 350 foot long access road to be constructed to reach the site (0.1 acres).

The total area of disturbance is 0.34 acres at the fenced facility site and total area disturbed including the access road is 0.44 acres.

My decision includes the following actions and mitigation measures to avoid and/or minimize impacts to the greatest extent possible:

### ***Engineering***

- The tower will be limited to no more than 65 feet tall.
- This will be a low power communications site limiting users to less than 1000 watts ERP.
- This communication site will be designated as a commercial site (open low power). However, there is no intent or need to consider additional expansion at this site to allow for additional towers or facilities at this time.
- The facility will provide tower space for a common shared microwave system. The facility along with existing tower sites along the SR 64 corridor will provide improved wireless service on this part of the SR 64 corridor and eastern areas of GCNP and the Tusayan Ranger District. The tower and equipment facilities will be designed to accommodate future use as a coverage site for four wireless carriers. It is anticipated that no additional towers will be needed at the site in the future to accommodate wireless industry needs.
- Users or tenants of the facility will primarily be wireless communications carriers (cellular, personal communications service, and internet service providers) operating using radio frequencies authorized by the FCC.



### ***Invasive Weeds***

- An invasive weed survey will be completed prior to the start of any construction-related activities in the area where ground-disturbing activities will occur as well as along the roads used to access the facility. If invasive weeds are found, a mitigation and treatment plan will be developed to address and prevent additional spread in conjunction with the national forest. Prior to the start and after completion of construction and/or maintenance activities, mud, dirt, and plant parts will be removed from all vehicles and equipment used during project operations to prevent the spread of invasive plant species. Areas where ground disturbance will occur will be monitored by a qualified weed specialist to ensure that invasive plant species do not become established. If invasive species are documented during surveys, manual and/or chemical control will be required.

### ***Cultural and Historical Resource Protection***

- Any ground-disturbing activities outside of the tower footprint will require new cultural resources review and potential surveys. An archeological survey and clearance report of 9.9 acres was conducted, and the proposed project activities will not affect any cultural resources that are eligible or unevaluated for the National Register of Historic Places. (Marshall, R2018030700043).

### ***Wildlife Protection***

- The proposed ground-disturbing activities were analyzed and documented in a biological specialist review and report dated December 2, 2019 approved by the district wildlife biologist for effects to threatened and endangered species (TES) and habitat. Design and construction of the facilities will conform to the following aspects of the Avian Power Line Interaction Committee (APLIC) for the siting and construction of communications facilities (APLIC 2006):
  - No additional lighting will result from implementation of the proposed action unless there are future changes in the FAA determination or requirements.
  - New or replacement towers will be required to be free standing.
  - All facilities will be designed and constructed to accommodate collocation of compatible communications site users.
  - No security lighting will be used.

### ***Scenic Resources***

A scenery management analysis was conducted, and documented in a specialist report dated August 28, 2019. The scenery analysis determined that there could be some short term effects during the four to six weeks of construction of the facility to visitors on segments of two forest roads, FR 64A and FR 6140. These effects are temporary and only for the duration of the construction activity, and are not considered a substantial effect. There will be no short-term effects to SR 64 from construction noise and activity as the construction is too distant from the highway to be heard or seen by passing motorists.

In response to concerns about possible visual effects on scenery DWT conducted additional propagation studies and determined that a tower 35% shorter could still improve wireless

communication needs and meet the purposed and need of the project. The final proposal was to reduce the height of the tower by 35 feet, from 100 feet to 65 feet.

The analysis identified three viewpoints where the tower will be minimally visible from SR 64. Because of the height adjustment of the tower duration of the views are short, and because the views are partial due to vegetation and topography, these impacts were also determined to be not substantial. The tower and facility will not be visible from most other areas of concern or the forest area surrounding the facility. In addition, mitigation measures will be implemented to eliminate shiny galvanized surfaces on the tower and antennae support components allowing the landscape character to remain intact.

To address potential visual issues, the tower, fence, and antennae support structure will be treated to make those components a rust color and eliminate all shiny reflective surfaces to better blend with the forest setting. The equipment shelters will be a dark brown color.

The project facility is located in a project area classified as “roaded natural” on the recreation opportunity spectrum (ROS), and a “high” scenic integrity objective (SIO). The scenery management analysis determined that there will be limited long-term scenery effects associated with the project. Mitigations as required for long term effects in roaded natural ROS and high SIO will be implemented. These mitigations, that will reduce visual impact, in combination with the tower and facility being only minimally visible from a short distance and for a short duration from SR 64 and two forest roads makes this long term effect minimal and not substantial.

Mitigations to reduce visibility include shortening the height of the tower by 35% from the original proposal of 100 feet to 65 feet, and using the lattice type tower structure.

The tower and facility is in an optimum location to reduce most visibility impacts to scenery. However, the KNF Land and Resource Management Plan (2014) requires scenery impacts in SIO High to be mitigated to the fullest extent possible while still meeting the purpose and need of the facility. In addition to shortening the tower height and using the lattice type tower structure following design features will be stipulated:

- All galvanized or shiny metal surfaces including the tower, ice bridges, antennae support structures, and chain link fencing will be treated to eliminate shiny reflective surfaces. A product called Natina Steel is recommended to mitigate shiny reflective surfaces on the tower and chain link fence. Natina Steel (a.k.a. galvanized metal stain) is used to create a rustic brown finish on galvanized surfaces that will not fade, crack, or peel over time from sun exposure. Natina Steel reacts with the zinc in galvanized metal and quickly (over 1 to 3 weeks depending on sunlight and heat intensity) creates a natural rustic brown patina to better blend galvanized surfaces/structures into surrounding terrains.
- The proposed tower is limited to 65 feet above ground level. This reduces the amount of tower above the tree canopy and thereby limits the locations where the tower can be seen
- All microwave dishes and antennae will be painted a dark green or brown color as approved by the FS to blend in with the surrounding forest canopy.
- The equipment shelters and compound will only have shielded switch activated outdoor lighting that will be used only when necessary to perform repairs or maintenance.



- The equipment shelter, gate, and propane tanks will be painted FS dark brown or chemically treated for rusty appearance. This color has been used by the FS on signs and buildings and blends in with the forest background well.

With adoption of the above mitigation measures, the proposed Deer Wash Facility will meet the KNF Land and Resource Management Plan (2014) scenic resource desired conditions.

#### ***Additional Requirements***

- Access to the Deer Wash Wireless Communication Facility is limited to when roads are open and passible or through coordination and approval of the FS.

#### **Public Involvement**

A scoping letter was emailed July. 24, 2019, to 82 addresses that included state agencies, government officials, grazing permittees, outfitters and guides, and non-governmental organizations. It asked for comments to be returned within 30 days. Two comment letters were received, including comments from the US Fish and Wildlife Service and the Grand Canyon Chapter of the Sierra Club. All comments were addressed and a summary of response to comments is located in the project record. Local tribes have been consulted during annual project update meetings. There were no comments from the tribes about the project. The project was first listed on the Kaibab National Forest's Schedule of Proposed Actions (SOPA) in July of 2019.

#### **Exclusion from Further National Environmental Policy Act Analysis**

The FS NEPA regulations (36 CFR 220) provide that a proposed action may be categorically excluded from further analysis and documentation through an environmental impact statement (EIS) or environmental assessment (EA) only if there are no extraordinary circumstances. The applicable categories in 36 CFR 220.6 are:

- 36 CFR 220.6(e)(3): Approval, modification, or continuation of minor special uses of National Forest System (NFS) lands that require less than five contiguous acres of land.

#### ***Relationship to Extraordinary Circumstances***

1. *Federally listed threatened or endangered species, or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or FS Sensitive Species.*

A biological review was conducted on the project, and approved on December 2, 2019, that determined that the proposed project will have no effect on any federally threatened, endangered, proposed or candidate species or critical habitat. In addition, no suitable habitat is present. There are no special-status species in the project area.

#### ***Sensitive Species***

The project will not impact any FS sensitive species nor will it alter habitat for these species. This project will not impact other sensitive species or their habitat or impact any migratory birds or bald or golden eagles.

2. *Floodplains, Wetlands, or Municipal Watersheds:*

There are no floodplains, wetlands or municipal watersheds at the permitted site. Actions under this permit will not alter any aspects of the watershed or waters of the United States, pursuant to Section 404 of the Clean Water Act of 1972.

3. *Congressionally designated areas, such as wilderness, wilderness study areas, or national recreation areas:*

There are no Congressionally designated areas in the decision area.

4. *Inventoried roadless areas or potential wilderness areas:*

The project area is not within an inventoried roadless area and is not part of a potential wilderness area.

5. *Research Natural Areas.*

The project area is not within or adjacent to a research natural area.

6. *American Indians and Alaska Native Religious or Cultural Sites*

The proposed project is not expected to have any effects to Native American cultural sites.

7. *Archeological sites, or historic properties or areas*

A cultural resource survey of 9.9 acres was conducted and a cultural resource report was prepared, October 10, 2018. The proposed project activities in the facility area will not affect any cultural resources. (Marshall, R2018030700043).

Evaluation of the following resource conditions indicates that no extraordinary circumstances are present in the project. As a result, further analysis in an EA or EIS is not necessary.

#### **Findings Required by Other Laws and Regulations**

**Kaibab National Forest's Land and Resource Management Plan:** This project is consistent with the goals, objectives, and management standards of the **February 2014 Kaibab National Forest Land and Resource Management Plan**.

**National Historic Preservation Act:** Cultural resource surveys have been completed and reviewed by the FS archeologist. Results indicated there were no adverse effects to the historical cultural resources of the area.

**American Indian Religious Freedom Act:** No American Indian cultural sites were identified within the project area. No comments regarding cultural sites were received regarding the project proposal through scoping.

**Endangered Species Act:** The FS biologist has developed a biological assessment for the proposed project area, which considered potential impacts on threatened, endangered or proposed species and their habitats. Based on this analysis, there will be no effects to federally listed species.

**Migratory Bird Treaty Act:** On January 10, 2001, President Clinton signed an Executive Order outlining responsibilities of federal agencies to protect migratory birds. Upon review of the information regarding neotropical migratory birds and the scope of the project, the FS wildlife biologist determined that no substantial loss of migratory bird habitat is expected from implementation of this project.



**Clean Water Act:** Public Law 92-500, as amended in 1977 (Public Law 95-217) and 1987 (Public Law 100-4) (also known as the Federal Clean Water Act) provides the structure for regulating pollutant discharges to waters of the United States. In Arizona, the designated agency for enforcement of the Clean Water Act is the Arizona Department of Environmental Quality. Mitigation of temporary ground disturbance will be required, including protection from soil movement and/or water run-off, such as installation of waddles where needed and all applicable best management practices. There will be no impacts to water. The U.S Corps of Engineers will issue a jurisdictional determination of “no permit required” letter.

**Executive Order 12898 - Environmental Justice:** This order requires federal agencies to evaluate whether their decisions could result in disproportionate effects to minority and/or low-income populations. No environmental justice concerns are anticipated to arise from installing the communications site facility or were raised by the public during scoping.

### **Administrative Review**

As a result of Section 431 of the Consolidated Appropriations Act of 2014 and Section 8006 of the 2014 Farm Bill, the Forest Service will no longer office notice, comment, post-decisional appeal, and pre-decisional objection opportunities pursuant to 36 CFR 218 for categorically-excluded project. These legislative changes and new direction do not limit the public’s ability to comment on Forest Service project and activities.

### **Implementation Date**

This decision may be implemented immediately upon issuance of authorizations and approved plans. As described above, installation of the tower materials is anticipated to occur summer of 2020, following the migratory bird breeding season.

### **Contact**

For additional information concerning this decision, contact Deirdre McLaughlin, South Zone Lands and Minerals Staff Officer, on the Williams Ranger District of the Kaibab National Forest  
742 S. Clover Road  
Williams, AZ 86046  
Phone: (928) 635-5662; Fax: (928) 635-5680  
Project webpage: see <https://www.fs.usda.gov/project/?project=56399>.



HEATHER PROVENCIO  
Forest Supervisor  
Kaibab National Forest

1/23/2020

Date

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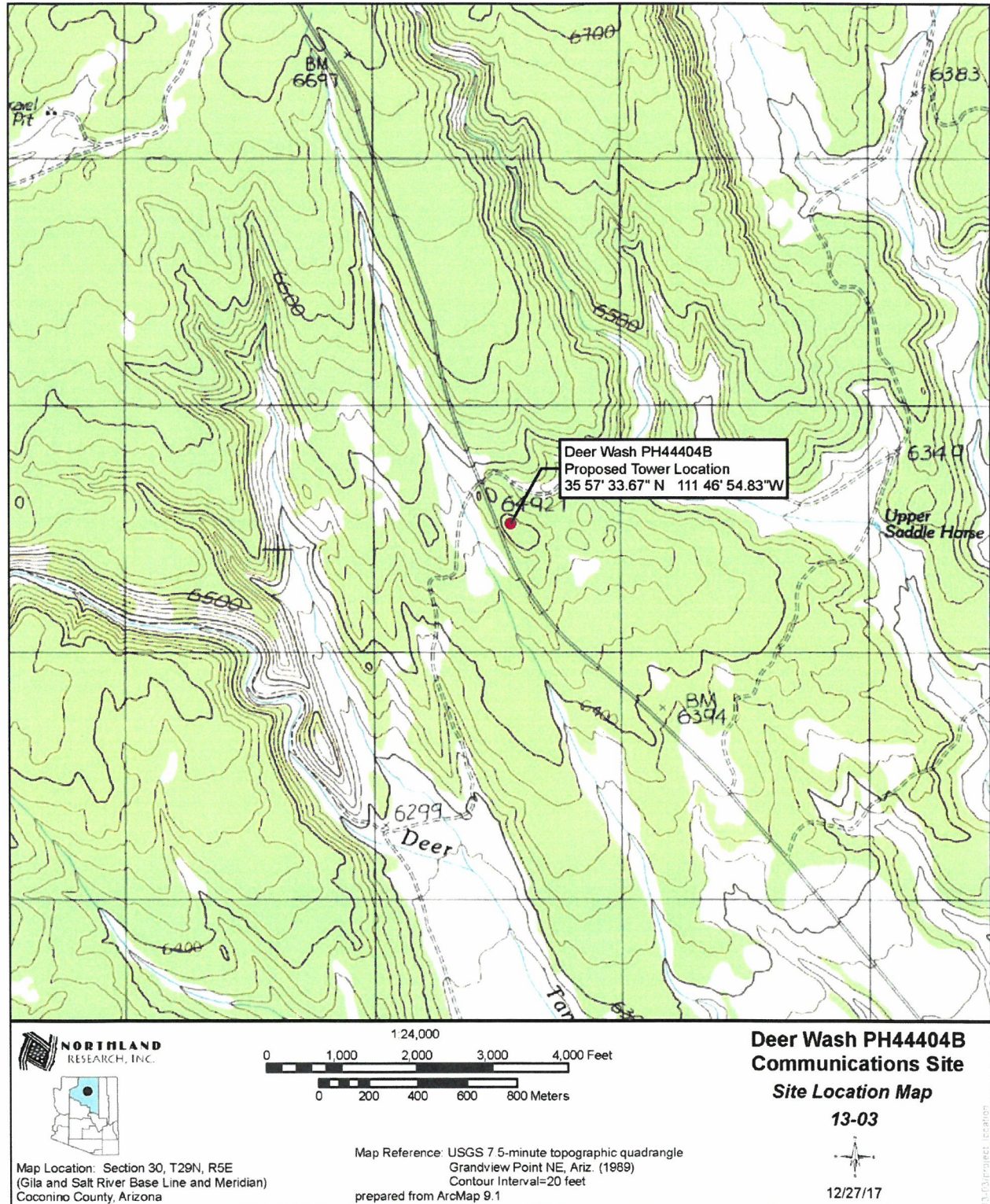


Figure 1 – Location Map

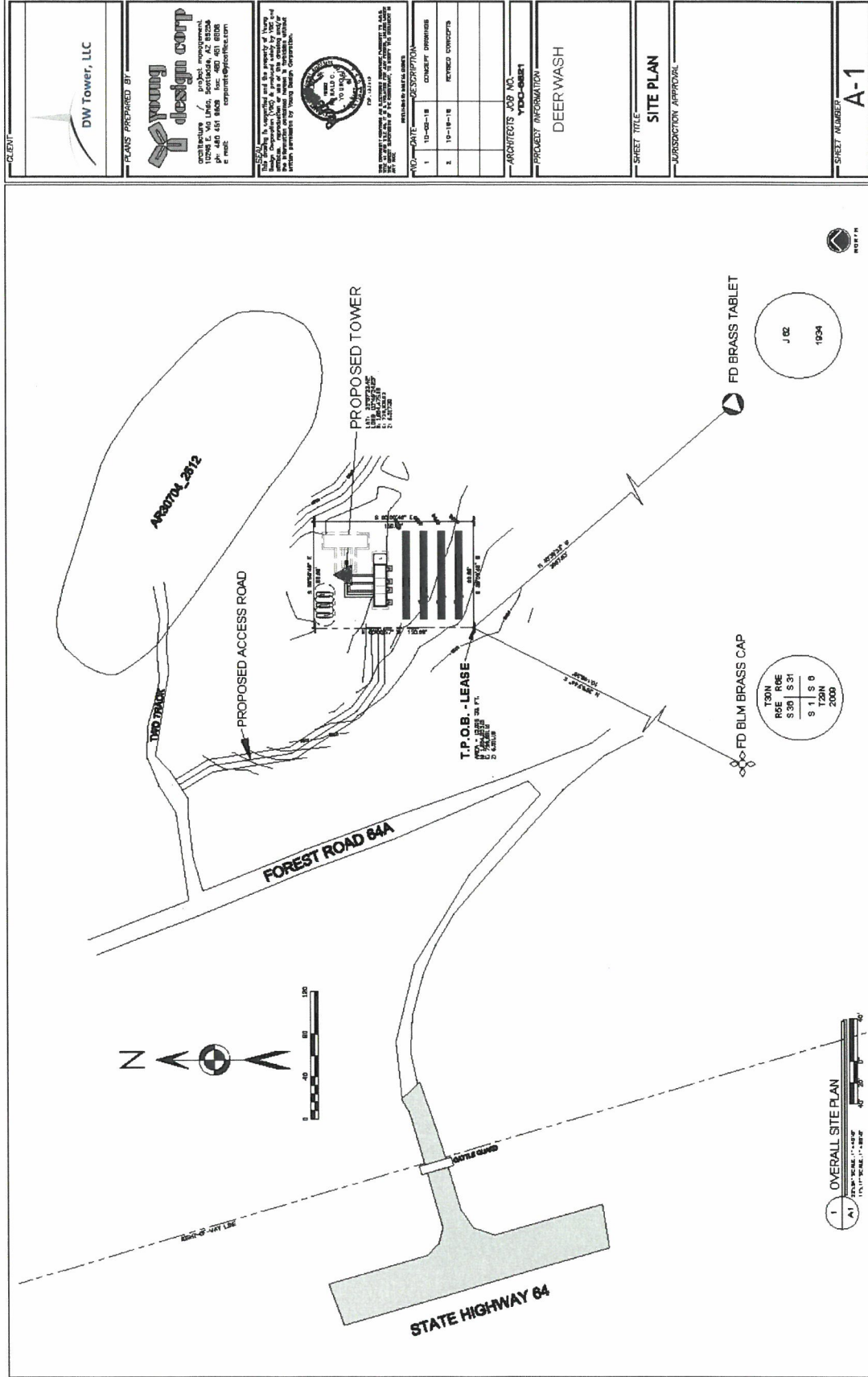


Figure 2 – Tower and Facility Profile



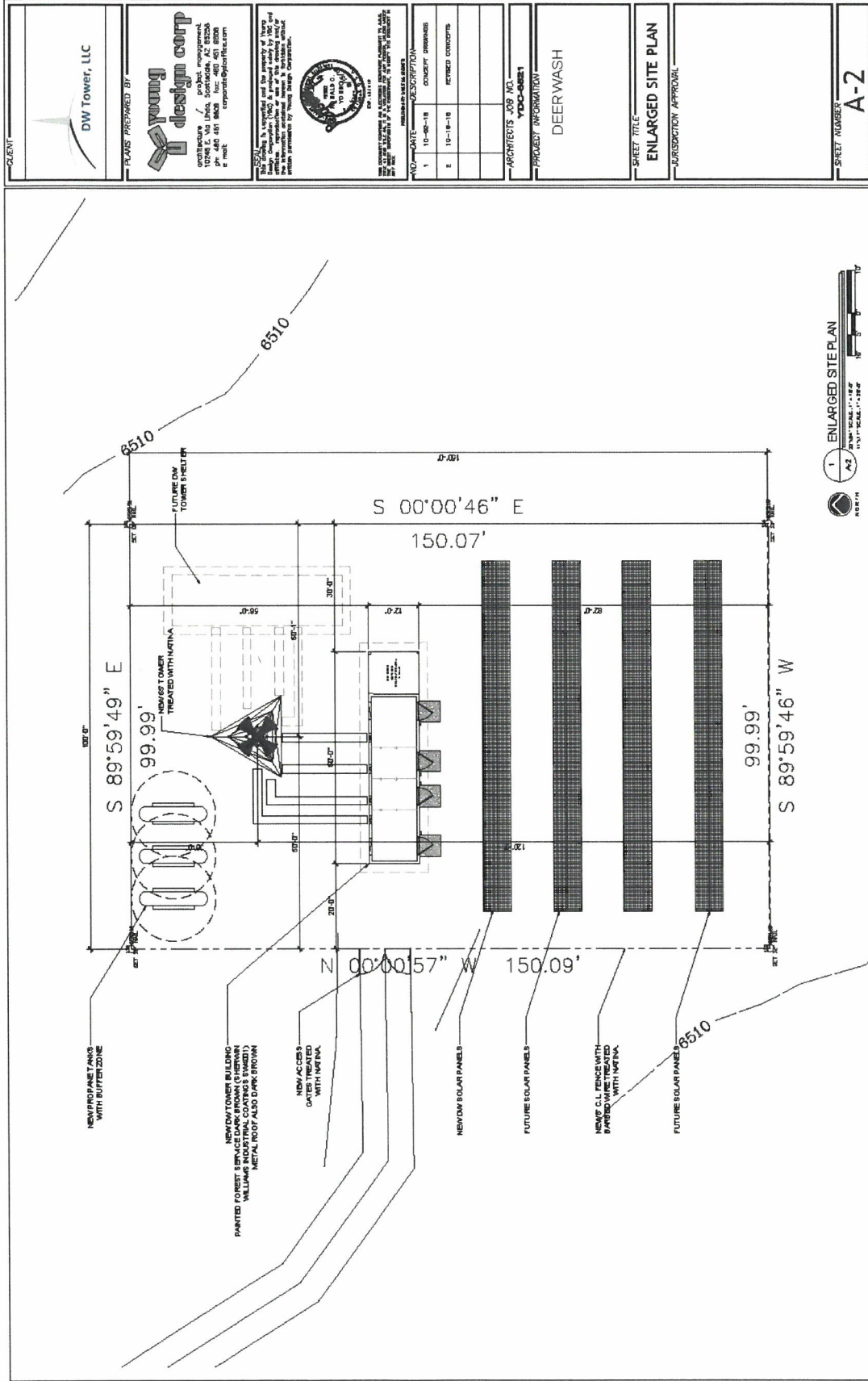


Figure 3 – Facility Concept Drawing Overhead

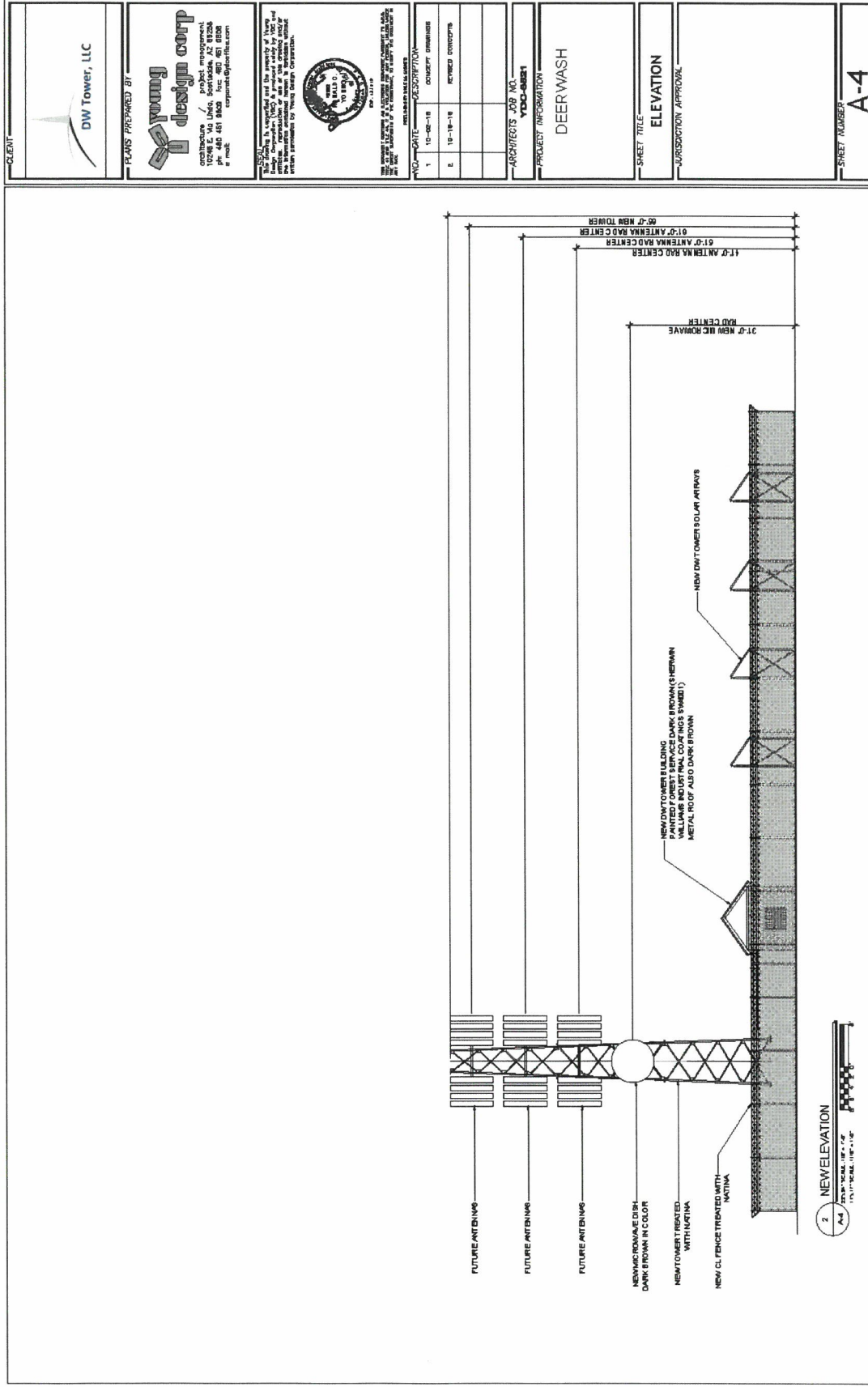


Figure 4 – Concept Drawing Profile